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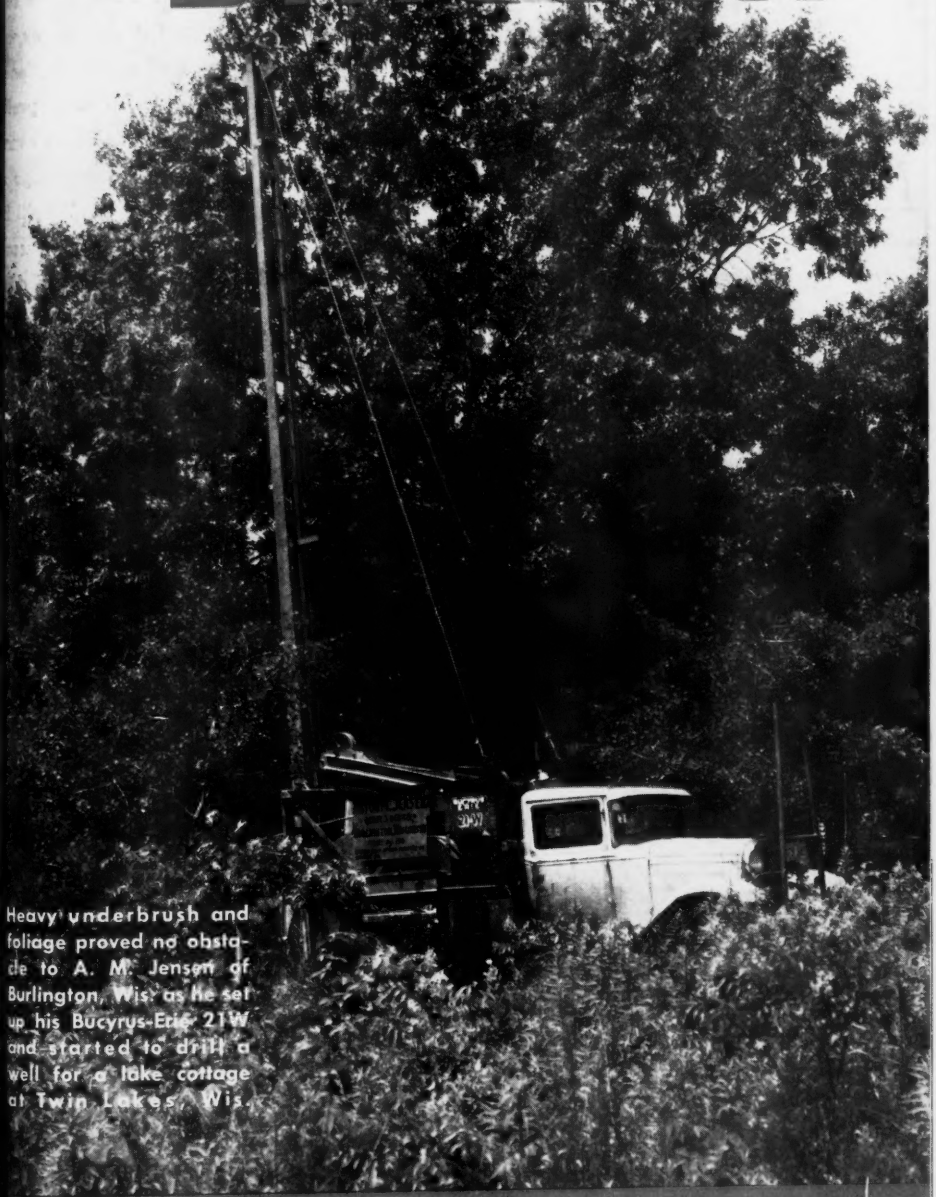

Heavy underbrush and foliage proved no obstacle to A. M. Jensen of Burlington, Wis. as he set up his Bucyrus-Erie 21W and started to drill a well for a lake cottage at Twin Lakes, Wis.

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VOLUME 20 FEBRUARY, 1946 NUMBER 2

THREE ROUTES *to Bigger Well Profits*

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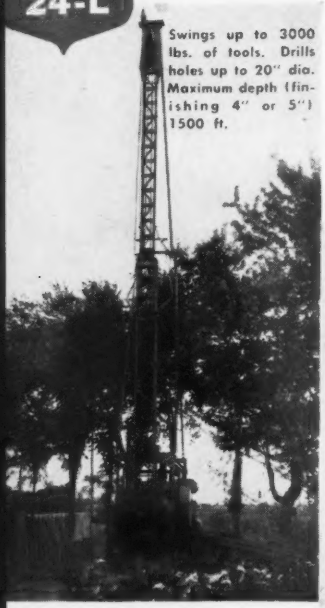
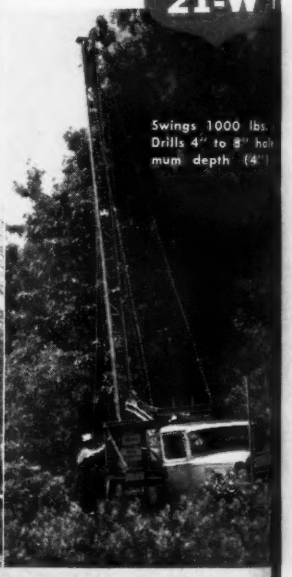


BUCYRUS ERIE 22-W

Swings 1500 lbs. of tools. Drills 4" to 10" holes. Maximum depth (4") 1000 ft.

BUCYRUS ERIE 21-W

Swings 1000 lbs. Drills 4" to 8" hole mum depth (4"



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- A Complete Line
- Prompt Service
- Best Material

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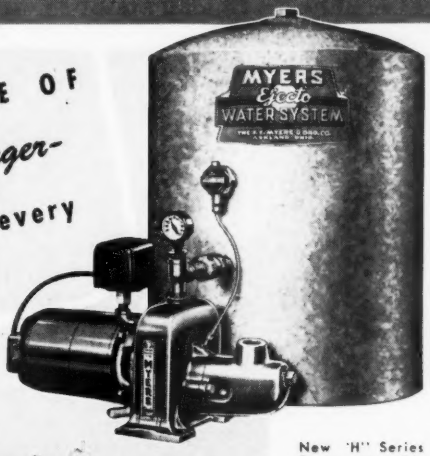
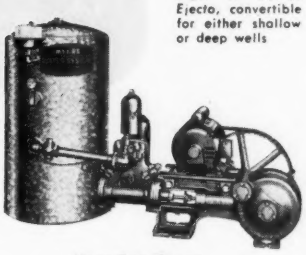


New "H" Series *Ejecto*, convertible for either shallow or deep wells

Shallow Well Plunger Type Water System

Deep Well Plunger Type Water System



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Forced to Build Own Road

New England Driller Had Problem Sinkin

CARL O. OLSON of Auburn, Massachusetts drilled for air and ran into the toughest problem in his 35 years of drilling. It was back in November of 1933 when he undertook the job of drilling an air vent for the Quabbin Aquaduct near Hardwick, Massachusetts.

Olson's drilling rig, a Keystone with wire rope, was mounted at that time on a five ton Sterling truck which had the prospect of moving through a heavily wooded section over rough terrain before reaching the spot where the air vent was to be drilled. A study of a map of the locality indicated that the nearest road he could use to reach the job was one-half mile from the proposed drilling spot.

It took Olson a day and a half to get his drilling machine in to the

• (Above) Bill Macomber, engineer, stands by six-inch casing preparatory to making a joint for vent hole. (Below) Sweating together finished joint before lowering casing.

Averaging up to 8000 feet of hole per year, Carl O. Olson has been drilling wells and putting in other holes to acquire a distinctive fame in his part of the country.

Mine Vent

job, and what tough work it really was! Carl had to call in five men for assistance in chopping trees and clearing the brush to make a path for his rig, but that was only part of the problem. Typical of many wooded sections, this territory had a rolling terrain that made it quite unsafe for his rig to get to the job even though the woods had been hewed to make a passageway.

Because of rocks, dips, and general rough traveling, Olson had to employ a bulldozer to level off the new road he had cut. The dozer sliced through high spots, filling in gulleys in addition to pushing aside cut timber and shrubbery.

When Carl finally reached the predetermined spot where he was to drill, he set his rig up over the excavations going on for the Quabbin Aquaduct. At the very moment that he began drilling, tunnelling was going on in the excavation below with small tracks laid in the tunnel and mine cars carrying out the excavated materials. Olson's job was to get a breather hole or air vent down to the tunnel.

Olson used an eight-inch bit to get the vent down to the tunnel. The hole went 150 feet and when the bit finally poked itself through the roof of the tunnel, surveyors found that the drilling was just a little over an inch off center from their original plans.

A temporary shack had been built to accommodate the two drillers on the job, Olson and his helper, Iver Lind. They lived in the shack for fifteen days until the air vent hole and the contract were completed.

After getting the hole down, Olson had the additional job of setting casing down to the tunnel. Specifications called for copper tubing instead of steel to be installed. Six inch tubing was used for the purpose, but being light gauge, the soft copper was not heavy enough to take a hitch.

(Continued on page 15)

• (Below) Drillers Iver Lind and Albert Olson (brother of Carl) are snapped alongside the drilling rig after it took six men a day and a half to chop trees and clear brush in order to set the machine up on location.

Cutting "above-ground" Tool Losses

Lost-tool problems have been reduced to a minimum with the tailor-made system this firm devised. Result: greater net-income on the profitable side of the ledger.

By L. H. HOUCK

MENTION lost tools and the average driller has visions of trying to fish them out of a well, but the fact is *more tools are lost above ground than underground.*

This truth had been observed by the Sydnor Pump & Well Company, Richmond, Virginia, for a long time and they realized the importance of keeping track of every piece of equipment to save valuable time and money. It led to a tailor-made and especially designed system which, in true perpetual-inventory style, makes it possible for Garland S. Sydnor, vice president and chief engineer, always to know the exact location of every tool and part and what is being done with it.

Damaged Tools a Bugbear

Damaged tools, bugbear of all drillers, particularly have a way of getting pushed aside in the warehouse or stockroom, soon to become lost forever. With many a driller there is only one way to find a given bit or bar and that way is to look through everything he has until he finds it.

Such an unsystematic hodge-podge is eliminated with Sydnor's system of records which is so accurately and easily maintained that he can instantly tell you the size wrench needed to fit the square of any bit, where it is, the size of the joint, its condition, and any other information desired to be known about it.

With more than 500 tools to keep an eye on it may seem like quite a trick to maintain records, but Sydnor has proved that it is much easier to keep records than try to locate misplaced or lost tools. He formerly could not rely on the hope of finally finding them for, as the old refrain goes, they will be found

> "On the thirty-second day of the thirteenth month
> Of the eighth day of the week,
> On the twenty-fifth hour and the sixty-first minute
> We'll find all the things that we seek."

No, Sydnor couldn't wait. Rigs were being delayed, time wasted, jobs periled. A system was needed and a search of office-record-system suppliers was made to install one at once. The search was disappointing, for none of them could offer a ready-made system to fit his needs. As a result, Sydnor developed a method of record keeping that has solved the problem of lost tools most effectively.

Tools Had To Be Listed

In attacking the job it was quickly realized that each tool owned by

the company had to be listed and numbered and they decided to use an ordinary 5 x 8-inch filing card for the purpose. To facilitate its use and the taking of measurements, a drawing of each tool was made by Sydnor and reproduced on the card with a duplicating machine.

He assigned class numbers to each group of tools starting with number "1" which is a rope socket and continuing to "100". There are unassigned numbers between the classes which allow for new tools to be listed by the company. All the cards of each class are filed in a frame or slide of a cardex system and that slide is labeled to correspond with the tool.

Sample Card Used

A sample card from the "bar" file lists the number as 4-10-CC-6-20. A glance at the illustration on the card shows it is a straight type, was taken from stock January, 1944, and has had new threads. The joint outside and inside threads on either end are 2¼ x 3¼. The diameter for 5½ inches below the outside taper threads is 4¼ inches — that's to the top wrench square and the wrench square is 3½ inches. For the next 19 feet and 9 inches the bar has a diameter of 4⅜ inches which takes it to the bottom wrench square which is the same size as the top one. The diameter is 4⅝ inches for six inches below the bottom wrench square and the inside or female end is 2¼ x 3¼ threaded.

Simplicity Achieved

A breakdown of the number, 4-10-CC-6-20, illustrates the simplicity achieved by Sydnor with the system. Number 4 was reserved for bars and is its class number. Number 10 is the serial number of that particular bar with no other bar having a number 10.

Sydnor decided to use letters when indicating joint sizes. In the sample, CC represents joint size 2¼ x 3¼ inches whether it is on a bar or bit and these letters with their corresponding sizes are posted on the front of each cardex slide.

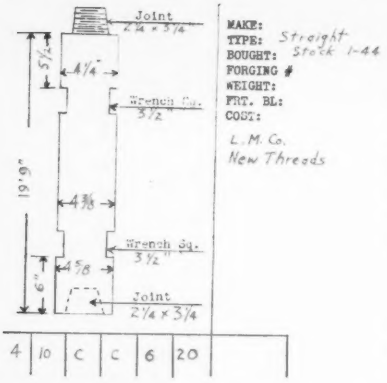
The fourth digit, number 6, is the diameter of the well the tool is suited for and not the diameter of the tool. The maximum diameter of this tool is 4⅝ inches and the serial number says it is suitable for use in a six-inch well.

The last digit of the tool number is 20 representing the length in feet of the bar.

Thus, each card and number gives a complete story of the tool. In this instance, the size fit possible with each end of the bar is of special value. If you've ever handled bars and found some that didn't fit each other and only a few that fit the bit you can readily understand how valuable this information is when it is

• Garland S. Sydnor at a "frame" of his efficient cardex tool-record system.

• Facsimile of left half of Sydnor's 5 x 8-inch tool record card. The blank right half may be used for notations.



in a usable and concise form such as has been invented by Garland Sydnor.

From the bit frame a sample card is numbered 5-17-E-10-7-R. It can be seen this bit won't fit the bars in mind a moment ago because the thread is 2¾ x 3¾ inches. Of Spang make, it is forging number 37745, was factory dressed, and was bought new in January, 1944.

For the first 11 inches its diameter is 5¼ inches, it has a 4-inch wrench square and the rest of the bit proper measures 4 feet and 8 inches. From the bottom of the thread to the bottom of the bit it is 6 feet, 4½ inches long.

Diagram for Bit Face

A smaller diagram on this card illustrates a bit face. The subject bit measures 6-5/16 inches the short way and diagonally from corner to corner it is 8⅝ inches. The half-circle areaway for the cutting measures 3⅞ inches across.

Here is a breakdown of the number: (1) Number 5 is the class under which all bits are listed. (2) Number 17 is the serial number of that particular bit. (3) Character E was assigned joint size 2¾ x 3¾ inches. (4) Number 10 is the diameter in which the bit can be used to drill. (5) Number 7, is the length in feet, and (6) R designates that it is a rock bit.

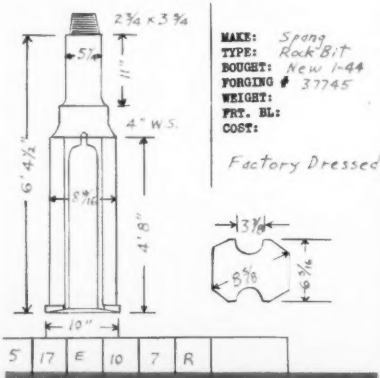
A glance through the cards quickly tells Sydnor exactly which tools are on the jobs with the drilling machines and which are in the warehouse, for the same number which appears on the card is stamped on the respective tool with ½-inch steel dies.

Driller Checks Tools

When a rig starts out on a job, Sydnor flips through his cards and selects the tools he wants on the job — tools that are suitable for the size of the job. When the rig returns, the driller must check in these tools on his daily report so that the tools are recorded on the cardex and later can be assigned to another job.

Tools, of course, require sharpening and occasional repair and may be out of commission due to damage. Under those circumstances a red

(Continued on page 14)



• Complete information of each tool is maintained on cards like this. Each symbol at the bottom offers glance information to tell Sydnor how the tool may be used.

The Driller & The Law

State Laws On Adjacent Wells Differ

by A. L. H. STREET

IN the course of drilling a well on the land of Smith, a contractor may find that his actions have an important effect on a well or wells on adjacent lands. Frequently landowners who see a new well depriving them of water they regard as justly theirs are tempted to seek legal redress for their loss. Drillers and well owners alike ought to become familiar with the general legal principles which their rights to subsurface waters are based on and in accord with which courts will render decisions when litigation arises.

It should be indicated at the outset that each state has developed a law unto itself in the matter of underground water rights. An article such as this, intended for distribution in every state, must confine itself to general principles in the light of which each interested party should obtain specific information on the attitude of his own state.

Distinction Between Waters

Generally, however, it may be said that a well recognized distinction exists between waters which flow in a definitely marked underground course, and those which do not, merely seeping through porous rock and collecting in underground basins. The latter type are generally called "percolating waters." Waters following definite courses are in reality underground streams and the conduct of men with relation to them is subject to practically the same restrictions as the use of surface waters. The owner of each parcel of land through which these waters flow is entitled to make use of them in a reasonable manner. The landowner is, in turn, expected to confine his use so that he does not unnecessarily diminish the flow of the underground stream: nor may he obstruct the stream or cause it to be polluted.

Major problems are confronted in dealing with percolating waters. Some states, such as Wisconsin, have adopted the law of England that a landowner has an absolute and unqualified right to use any underground waters which may be found beneath his land in any way that he sees fit without regard to the effect which his use may have on the water supply of his neighbor who, quite likely, is tapping the same common underground reservoir.

Western States More Strict

In other states, notably those western states where water is less available, it is required that a landowner take care that his actions do not unreasonably injure his neighbor, and the law holds a person responsible if his conduct depletes the total available amount of water. The rules thus broadly stated, have numerous exceptions and modifications to cover specific sets of circumstances but despite them, it is based on an entirely different premise than the absolute right doctrine.

Let us for example take an actual case which arose many years ago in one of the western states in which the facts were that the plaintiff-landowner had a well which produced

(Continued on page 17)

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Good Record System Can Be Very Simple

THE article "Cutting Above Ground Tool Losses", on page 6 of this issue, demonstrates just one phase of a record keeping system which most good drillers find essential to efficient operation. A good record system is not necessarily a complicated one. On the contrary, the successful system is usually quite simple — recording only those facts which are useful and disregarding all others.

Successful records do not necessarily require a great deal of time to maintain. Even the busiest driller can usually find a few minutes a day to bring records up to date. But the driller who lets his record keeping go for days at a time, tries to make entries at the end of a week or longer, finds the few minutes a day have accumulated into hours, that facts he planned to remember are missing.

The advantages to the driller of a good tool record system are many. If he is accustomed to loaning tools to fellow drillers, the record provides a ready means of recording who has what tool, when he borrowed it, when he promised to return it, in addition to recording details of the tool. When the owner discovers an emergency use for the loaned tool, he can determine joint size and dimensions immediately from his record. Even though he may not have seen the tool for weeks or months, he will know whether he can use the tool for the job in hand before he travels, oftentimes many miles, to the borrower.

Record Can Tell Tool Value

A tool record is a good place to find the relative value of various tools. The record can tell how much service a tool has given, how many feet of hole it has drilled, and whether or not it has "paid its way."

The drilling contractor who owns a number of rigs finds the tool record a necessity when sudden need for a given tool arises. His record will tell him where the needed tool is, its condition, and what it is being used for.

Of course, tool records are not the only record systems useful to a driller. Perhaps even more essential are well logs. For instance, the October 1943 issue of THE DRILLER contained an article, "Permanent Logs for Your Wells," suggested by one of our readers. This reader advocated keeping a record of each well drilled, showing dates — begun and completed, depth, formations, yield, pump installed, and other useful data. A record of this type is extremely useful when servicing or re-

working a well, is of great help in determining actual costs to the driller, increases the confidence of his customers in him because he has information available when required.

We don't say that a good driller *must* keep such records, but good records have helped to make good drillers excellent businessmen, more efficient operators, and have helped considerably to increase well drilling profits.

Prospect Valley Has To Cope With Water Problem

INHABITANTS of Prospect Valley, Colorado face the problem of either reducing their arable soil now under cultivation, or voluntarily curtailing their amount of pumping according to Technical Bulletin 34 issued by the Colorado Agricultural Station.

Because of the decline in surface water during the years of 1943-44, the farmers have had to rely more heavily on their wells to irrigate the 12,500 acres being worked, and therefore have placed a serious drain on their subterranean water reservoirs.

After a study of all gathered data, the bulletin asserts that under ordinary conditions the safe water yield from underground to be around 9,860 acre-feet which would necessitate limiting the irrigated area to about 8,300 acres.

Should prevailing water conditions continue and there be no reduction in the number of acres being irrigated, the Bulletin sums up that it is extremely likely that economic exhaustion will occur in around 14 to 18 years with symptoms setting in for some parts of the Valley before that time.

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For shallow well or blast hole drilling, you can't beat Macwhyte "Hi-Lastic". This superior wire line helps you drill more hole at less cost . . . keeps the bit turning faster on all types of formation . . . reduces tendency for the hole to get out of round, and for the bit to channel. "Hi-Lastic" makes a longer stroke, lifts tools higher. Internally lubricated. No manila cracker needed.

For profitable deep well drilling, use Macwhyte Standard Cable-Tool Lines. They have the right elasticity to strike long, hard, sharp blows.

For sand lines, use Macwhyte coarse laid (6 x 7) or Macwhyte soft laid (6 x 19) . . . Mild Plow steel.

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NEWS OF THE MONTH

Illinois Drillers Meet This Month

THE Stock Pavilion on the campus of the University of Illinois, Urbana, will be host to the annual Illinois Water Well Drillers Inc. who will meet there February 6, 7, and 8 according to Service Secretary L. E. Workman.

A full schedule has been planned for the three-day gathering and a large attendance of both state and out of state drillers is expected. The Urbana-Lincoln Hotel has been chosen as hotel headquarters.

Building Increase Forecast For 1946

WELL DRILLERS will find the year of 1946 a profitable one as indications are that new construction in the 37 states east of the Rockies will be increased 50 per cent over 1945 in total dollar volume. These figures were recently released by F. W. Dodge Corporation, fact finders for the construction industry.

The biggest increase will be in the residential construction field which is estimated to increase 178 per cent. Nonresidential construction which includes public and religious buildings is expected to increase 20 per cent over the previous year.

As much construction will necessarily take place in outlying suburban areas where public water mains are few or lacking altogether, well drillers can be assured of more opportunities for work in a direct proportion to the amount of increased construction.

Water Tables For Nov. Were Above Normal On Average

TABULATIONS at the end of November, 1945 showed that groundwater levels for that month were above normal in most of the states with unusually high levels reported in New York and Pennsylvania according to the bulletin issued by the U. S. Department of the Interior and Geological Survey.

However, the water table was below in Connecticut and the Pacific Northwest along with the sizeable area covering most of Arizona, New Mexico, and Colorado. This latter area has shown low water tables for the past few months.

Runoff was also above normal in most parts of the country. Excessive stream flow was reported over large areas of the eastern states and the greater part of Oregon, California, and Nevada. In Alabama and western Kentucky where stream flow had been below normal for a number of months there was an increase to above-normal rates.

Because of heavy recharge, runoff and water levels remain high in southern Florida, and supplies for the approaching spring should be greater than a year ago. Also in the west generally, water supplies for irrigation and power generation reserves are in good condition.

Stream flow conditions in Canada were normal with the exception of streams in Ontario and Nova Scotia where runoff increased to twice its normal rate.

Program Highlights Announced For Badger Convention

HIGHLIGHTS on the program for the state convention of the Wisconsin Well Drillers, Inc. to be held at the Northland Hotel, Green Bay, Wis. on February 22, 23, and 24 were announced recently by Acting Convention Secretary B. G. Garber.

The first day of the meet will be taken up with a business meeting beginning at 2:30 p.m. and which will be followed by motion pictures on subjects related to the well drilling industry at 7:30 p.m.

Many interesting speakers will be heard on Saturday including Carl N. Neupert, M.D., and L. F. Warrick, Bureau of Sanitary Engineering, both on the State Board of Health; F. T. Thwaites, Geologist, and C. H. Neitzke, Department of Agricultural Engineering from the University of Wisconsin. In the evening, the annual banquet will be served at 6:00 p.m.

On the final day, besides winding up convention business, the drillers will hear Lewis T. Watry, Well Drilling Division, State Board of Health. Mr. Garber stresses that this is not the complete program but only some of the features.

Myers Pump Poster Widely Distributed

A RECENT news release from the F. E. Myers & Brothers Co. of Ashland, Ohio announces that for the first time in a number of years the Myers Calendar-poster will be widely distributed. First published in 1890, the Myers calendar has followed the same style structure throughout the years, measuring 17½ inches by six feet.

Designed to sell Myers products, the calendar has many pictures of the pumps in operation on a model farm in order to show that Running Water Means Better Living — and Better Farming.

In conjunction with the above topic are shown the conveniences afforded by running water in the kitchen, bath and laundry, as well as the protection against fire—which also results from adequate water pressure. Practical use of running water in the poultry house, dairy and garden as a means to more profitable farming is depicted in other illustrations.

Attention Turned To Use Of Water For Oil Recovery

WEST VIRGINIA oilfields now decreasing in natural production are paying marked attention to the use of water as a secondary method in recovering oil according to Russell M. Jeffords in a paper entitled, "Water For Secondary Recovery of Petroleum in West Virginia."

Though air and gas injection recovery methods have been used in West Virginia, water flooding is deemed more efficient in the recovery of oil and many companies may be expected to apply the use of water in their recovery operations.

Quality Considered

Jeffords also states that between 5 and 15 barrels of water are injected to capture one barrel of oil at many of the fields; usually, 15 to 25 barrels are necessary for each acre to be flooded. Besides securing wa-

ter in quantity, the quality of the water must be considered so that chemical precipitates and silt will not injure pipes and machinery.

Because of the uncertainty of the volume of surface water and its chemical composition, and the lower construction, maintenance and operation costs of ground water, Jeffords concludes that a great quantity of the water will have to be taken from water supplies developed from wells.

Tool Losses . . .

(Continued from page 8)

insert on the cardex file informs Sydnor that the tool cannot be assigned until repaired.

With eight drill rigs putting in various sizes and depths of wells, the system Garland Sydnor has invented has eliminated carelessness, has changed chaos to order, and has put many dollars into the profitable side of their ledger.

Sydnor also maintains a detailed profit-and-loss record of all operations. This is important, for their

Harry Clinton Kaufmun

The many friends of Harry C. Kaufman, Los Angeles, Calif., were grieved to learn of his death on Dec. 14, 1945 in Anderson, Indiana.

Mr. Kaufman who directed the activities of the Kaufman Co. of Los Angeles was connected with the well drilling industry for over 30 years. He was not only a successful salesman, but a recognized authority on well drilling problems and through his broad practical experience made hundreds of friends on the Pacific Coast and throughout the Southwest.

How JENSEN Helps Drillers

From any good well 100 feet deep or deeper, the JENSEN Pumping unit makes water cheap and dependable. The unit costs much less than most pumping devices, lasts much longer, and is more dependable and satisfactory in every way. Drillers all over the United States help themselves by recommending the JENSEN Water Well Pumping Unit. Write for Bulletin No. 26.

JENSEN BROS. MFG. CO.

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operating territory is in a 400-mile radius from Richmond, Virginia, and contains everything in formations in the driller's book from quicksand to granite. The profit-and-loss is figured so closely that if a job would lose by fifty cents not another thought is given to it because if any money were to be lost they believe in letting some other driller lose it.

The form Sydnor uses lists profitable and non-profitable operations. Operations such as drilling and setting strainers are considered profitable, while moving, repairing tools, and setting-up are listed as non-profitable.

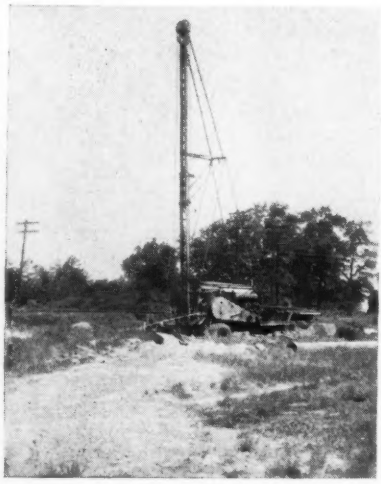
Unusual among the headings are those which indicate weather conditions and whether or not the driller's wife is on or off the job. The weather-conditions listing is self-explanatory but the reason for the entry regarding the driller's wife is not. If the driller's wife resides near the job there will be more drilling done because the driller will not want to shut down to go and be with his family.

Looks at Two Factors

Sydnor needs only to look at the report to know how much drilling to expect in this respect. So, when a customer calls him and wants to know what the prospects are for getting water by Christmas, a look at these two factors of "weather" and "wife" and superimposing them on the depth of the well and the estimated length of the contract, a pretty fair answer can be given.

Continued success in the drilling industry may be expected by the Sydnor organization for their records keep them well informed of all operations to assure only profits in the many years to come.

Water For Trains



• Locomotives need water, too. Here Sydnor Pump & Well Company's Bucyrus-Erie 24-W is putting in a 12-inch well for the Atlantic Coast Line Railroad near Petersburg, Virginia. Sand and gravel and a stretch of hard gray granite were hit in the hole which produced a reasonable volume of water from both upper and lower water-bearing stratas. The 300-ft. hole was put in by operator John Hancock in 300 hours.

New England . . .

(Continued from page 5)

Carl Olson found it necessary to construct a special hitch rig to lower the tubing. Each length of tubing was sweat jointed and then lowered into the hole until the full length was down and a few inches had protruded through the roof of the tunnel. A post in the tunnel was placed under the tubing to hold it in position until the hitch rig could be pulled out. It finally was grouted in position to finish Olson's part of the interesting job.

Another interesting experience that Olson picks out of his bag of drilling memories has to do with a

A Monitor Sky Power windmill is designed to take care of itself, even in severe weather. The exclusive Monitor Wind Governor automatically regulates pumping speed in any wind velocity, from a gentle breeze to a stinging gale. No more racing out of control; Monitor Sky Power windmills adjust themselves.

Entire windmill head is sealed in an "iron vault" case. Gears need oiling only once a year.

Here is truly a windmill that relieves the farmer's mind of worry. A Monitor furnishes a dependable source of water supply without danger of damage—with very little attention.

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• BRANCHES •
BAKER MFG. CO.: Minneapolis, Minn.; Madison, Wis.; Fort Dodge, Ia.; Cedar Rapids, Ia.; Omaha, Neb.; Kansas City, Mo.; Enid, Okla.; Hutchinson, Kansas
BAKER MFG. LTD., Winnipeg, Canada
AXTELL CO.: Fort Worth, Tex.; Amarillo, Tex.; Lubbock, Tex.; San Angelo, Tex.

BAKER MANUFACTURING CO., EVANSVILLE, WIS.

drill bit that he lost and then fished out without realizing it. As he recalls the job, he was drilling a 6 inch well for a farmer near the city of Worchester, Massachusetts and had hit a strata of bed rock when he was down about 65 feet. At that point, Olson noticed that the machine didn't seem to be running just right. He went over and took hold of the wire rope line and immediately could feel that something was wrong.

Stopping the spudding action of the machine, Olson pulled out the tools to try to locate the trouble. He did note a space of about $\frac{1}{8}$ of an inch between the shoulder of the bit and the bottom of the stem, but couldn't quite understand why that should make any difference in the feel of the line.

Bit Falls Out

Olson shook the drill bit on the line once, and found that the bit moved farther out from the stem. He quickly covered the drill hole with a plank and proceeded to shake the bit some more until after a dozen tries the bit fell completely free from the stem.

Examination of the bit and stem soon revealed to Olson what had happened. He found that the pin had broken at the first thread and caused the bit to drop off the string but succeeding blows caused the stem to hit the bit in such a manner that it mushroomed the remains of the pin until a lucky strike wedged the bit pin into the box of the stem tight enough to hold it firmly. It was at that time that Olson stopped his machine and pulled the almost-lost tool from the hole.

Most of Carl Olson's drilling is not a matter of luck such as he had with the bit but requires a good deal of sound experience and knowledge of drilling formations in his state of

Massachusetts. As owner of the Olson Artesian Well Company, Carl often will take his rig to jobs in parts of Connecticut, Maine, New Hampshire, and Vermont.

Wells that this driller puts down usually average between 50 and 500 feet deep, which suggests the variety of drilling he is likely to encounter every day. For a number of years he has been proud of his 7000 to 8000 yearly footage, which is pretty good going for his territory.

Drills Mostly "Six Inchers"

Included in the wells that Olson will drill are those for industries, farms and suburban homes, and occasional holes put down to reach water for air-conditioning purposes. A few of the holes he drills are eight-inchers, but most of his wells are six inches in diameter.

Massachusetts drilling, Olson says, means that one is likely to meet formations such as clay, gravel, sand, and hard-pan, with tough drilling through granite and slate rock often encountered. That is why he insists only the experienced driller will build success in water well drilling in his state.

Uses Various Advertising

In spite of the fact that he has many jobs lined up, Olson continues to believe that he has invested very wisely by placing an advertisement regularly in each issue of the telephone directory and by passing out calendars to those prospects by whom he wants to have his name remembered. Both of these methods of spreading the name of the Olson Artesian Well Company have helped him get many well drilling jobs.

Olson remembers the shallowest well he ever drilled. Put in for a farm, the 6-inch hole was only 22 feet in depth, but it produced 30 gpm.

On the other hand, Carl's deepest well was 6 inches in diameter and went down to 585 feet through hard-pan and brown granite before he hit a water bearing strata that produced 90 gpm. The water was used for a farm, two summer homes and a 50,000 gal. swimming pool. The job took him 25 days to finish.

With jobs such as those in Carl Olson's drilling background, the Massachusetts driller is certain that he can look ahead to many more years of efficient and profitable drilling. He knows, too, that he most likely will continue to maintain the high yearly footage he has been producing in the past.

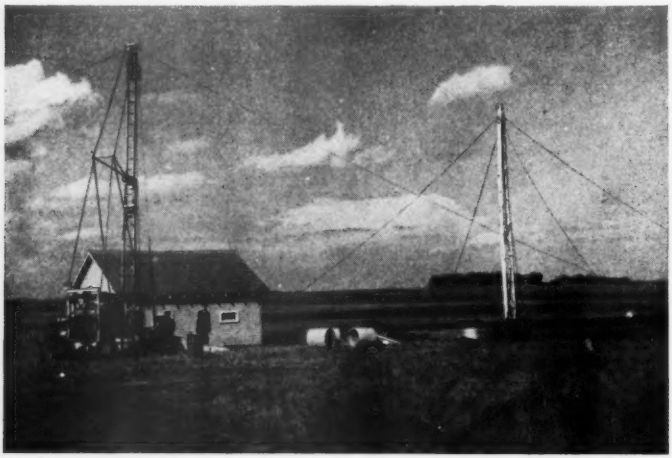
State Laws . . .

(Continued from page 9)

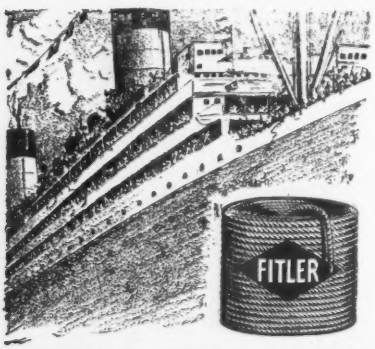
water for his domestic needs. The defendant, in blasting for a railroad right of way, fissured a stratum of impervious rock which theretofore had held back water from which the well drew. The court held that the verdict which the jury gave the well owner should not be overturned, and based its decision on the fact that it was a wrongful act of the defendant to deprive the plaintiff of water, at least when the loss to the plaintiff was not occasioned by any use which the defendant was making of the water.

In states adopting an absolute right theory, an opposite result would undoubtedly have been reached. A landowner deciding to put in a new well, or a contractor responsible for a choice of methods of operation might be guided in his choice by the philosophy of the law of his state in its regard for the importance of water.

Minnesota Men Are Old Timers At Game



• Eisele and Middendorf of Wilmont, Minn. who have been drilling wells in Minnesota and Northern Iowa for over a quarter of a century are pictured with their Bucyrus-Erie 33 rig and a Monitor Boring Auger.



ON THE WAY BACK

We of Fitler are proud to join an anxious nation in paying tribute to our returning soldiers who did so well.

There is good news for rope users too—for Manila Fiber is also on-the-way back.

THE EDWIN H. FITLER CO.
Established 1804
5625 Tacony Street
PHILADELPHIA 24, PA.

Demand For Water Systems Predicted

AN anticipated demand for water systems ranging from 500,000 to 600,000 annually was predicted by C. D. Leiter, sales manager for the F. E. Myers & Bro. Co. at a recent meeting in Chicago of The Central Supply Association.

Leiter estimated the expected production of water systems for 1946 to be at least 500,000, an increase of more than 100,000 over the 1945 production figure. According to Leiter, the demand for water systems can readily be supplied by the present producers though labor and material shortages may cut down full plant capacity in some instances.

Mr. Leiter said that few if any of the water system manufacturers have serious reconversion problems. It is believed that all prewar producers are now in production.

Deep well
Turbine
Type

Capacities:
10 to 30,000
g.p.m.

Top-Flight Quality

with Peerless dependability

PEERLESS PUMPS

PEERLESS PUMP
DIVISION
Food Machinery Corp.

FACTORIES
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WIT BITS

First Little Girl: "How far are you in Sunday School Class?"

Second Little Girl: "I'm past Jacob's Ladder."

First Little Girl: "That's nothing, I'm past Redemption."

"All right back there?" called the conductor from the front of the car.

"Hold on!" came a feminine voice. "Wait 'til I get my clothes on."

The entire carful craned their necks expectantly. A girl got on with a basket of laundry.

A man appeared in a newspaper office to place an ad offering $100 for the return of his wife's pet cat.

"That's an awful high price for a cat," the clerk suggested.

"Not for this one," said the man, "I drowned it."

A driller wanted to use his phone, but every time he found the line was busy.

"I put some beans on for supper," he heard one woman say to a neighbor at the other end of the line.

A few moments later when he tried again to call, the same two women were talking. "Say lady," he broke in, "aren't your beans burning?"

There was a scream, two receivers went up and the driller got the line.

"Why don't you fight against your longing for drink? When you are tempted, think of your wife at home."

"Madam, when the thirst is upon me I am absolutely devoid of fear."

A bewildered driller entered a ladies' dress shop.

"I want a corset for my wife," he said.

"What bust?" asked the clerk.

"Nothin'. It just wore out."

At two o'clock in the morning a woman telephoned the manager of a large department store. After much ringing the manager answered with a sleepy and gruff hello.

"This is Mrs. So-and-so," said the woman in a gushing tone. "I just couldn't help calling you personally to tell you that the hat I bought at your store last week is simply stunning! I don't know when I've liked anything so much!"

"That's all very very fine," yawned the manager, "but would you mind telling me why you call me at this hour of the night about a hat you bought last week?"

"Because," she replied sweetly, "your driver just delivered it."

Agent: "Sir, I have something here that will make you popular, make your life happier and bring you a host of friends."

George: "I'll take a quart."

He figured he was about the smartest fellow at the country fair. And he got to arguing about pigs with old Eph.

"Pigs," he sneered. "What do you know about pigs? Why, my father raised the biggest pig ever seen around here."

Old Eph grinned quietly. "Yep, sonny—and the loudest-mouthed."

Help Your Customers to plan FULL USE of Running Water!

The *time-tested* Deming Jet-type Water System.

YOU . . . as a well driller . . . are in the best possible position to help people plan for the FULL USE of running water. Government figures show that the greatest number of water systems sold are of small capacity . . . capable of supplying only a few of the many needs for running water. The result is that too many people, unknowingly, expect too much from an automatic water system of inadequate capacity. Disappointment with a water system is usually the result of "too little capacity." No other type of electrical equipment demands as much "common sense planning" as a good water system. Well drillers . . . with their "pump know-how" and familiarity with local conditions are the logical experts to help people who really WANT an adequate supply of running water to get it . . . at low operating and maintenance cost. Sell FULL USE of running water with a reliable DEMING PUMP AND WATER SYSTEM.

DEMING

THE COMPLETE LINE

PUMPS AND WATER SYSTEMS

The Deming Company • Salem, Ohio

BARGAIN COUNTER

To the reader who wishes to advertise used equipment in "Bargain Counter" Section. All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 50c per line. Minimum charge $1.20. No discounts; no commissions. Read these instructions carefully. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Count your own copy to save delay. Holding up your advertisement one month to secure approval of revised copy or an additional remittance, may cost you real money in a lost sale. Be sure to enclose the correct amount of money with your order. Closing date — 10th of preceding month. Example — January issue closes December 10th.

To the reader wishing to answer "Bargain Counter" Section advertisements appearing on these pages: Be sure to address your inquiry to the advertiser by using the correct box number. Mail your letter in care of THE DRILLER, South Milwaukee, Wisconsin. Write each advertiser a separate letter. Do not write us for name and address of advertiser. This information will not be given out. We have no information about the equipment advertised other than that shown in the advertisements themselves.

DRILLS FOR SALE

Two Bucyrus - Erie 24 - L drills. One mounted on Federal 2-ton truck, the other on 10-wheel International truck. $6,500 each. f.o.b. Cincinnati, Ohio. Box 111

No. 70 Keystone all steel drilling machine. Mounted on a GMC truck, in good shape. Machine with about 300' of drilling cable and 200' of sand line. Without tools. $3,000. f.o.b. Cincinnati, Ohio. Box 110

No. 2 National oil and gas machine, powered by steam. Machine is equipped with tools from size 6" to 10", 3000' of new 7/8" cable, 3000' of new 1/2" sand line. In excellent condition and may be seen in operation. $6,500 f.o.b. Cincinnati, Ohio. Box 112

WANTED

Well drilling machine. Truck mounted preferred for 6" to 8" wells. 250' deep. Write full description. R. H. Meier, 1334 Van Ness Ave., San Francisco, California.

SELL YOUR 22W, 24W, 24L, OR SIMILAR MACHINE TO ME; STATE ALL FACTS FIRST LETTER. Box 108

Wanted: All steel shallow well drill complete with tools. 6" work. Roy Squires, Bushkill, Penna.

Wanted — Band type clutch for No. 11½ Loomis Clipper drilling machine. H. J. Burkhart, 276 S. West St., Bellevue, Ohio.

Wanted To Buy: 24-L Bucyrus - Erie drilling machine, mounted on trailer. Layne-Western Company, 1010 West 39th Street, Kansas City 2, Missouri.

HELP WANTED

GOOD EARNINGS

Experienced driller. Steady work guaranteed. Earn average $100 Weekly or more if qualified. Lower Mich. Must have car. Box 0478.

Solid tool driller for western Iowa. Guarantee inside work winter time. Box 109

Contractor's Pump Manual Published

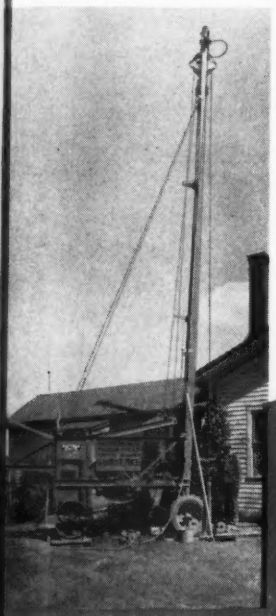
A "CONTRACTOR'S PUMP MANUAL," designed to supply information on portable pumps and guidance to pump users in the construction, mining, industrial and other fields, has been published by the Contractors' Pump Bureau of the Associated General Contractors of America.

Four types of portable pumps are presented — self-priming centrifugal; diaphragms; well-point; road pumps. In each case the pumps are described and their particular advantages and limitations outlined. A pump selection table is included to serve as a guide in the choice of the kind of pump which can be most advantageously applied to the job to be done.

"Pump Trouble Check Sheet" is included in the manual, together with a maintenance timetable; a list of operation "Do's and Dont's," tables of useful engineering information and necessary friction tables.

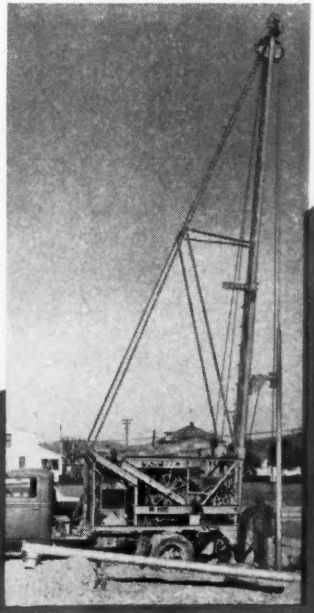
ODERN DRILLS are Well Salesmen!

Well customers prefer the contractor whose equipment is equal to its job. That's why it's so important to modernize to make the most of the many well markets that are now re-opening in full swing — farms, suburban homes, industries, cities, business places, irrigation and reclamation projects. And when it comes to modern, hard-hitting water well drills, Bucyrus-Eries continue to set the pace. All-steel, mobile, thoroughly dependable, they out-sell because they out-drill!



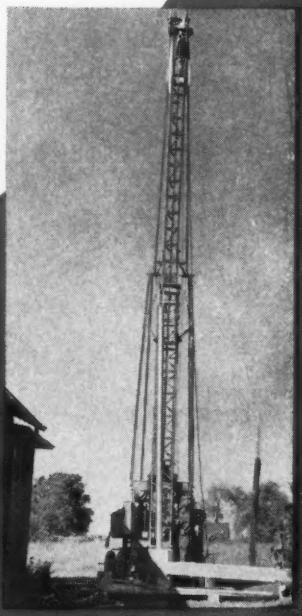
21-W

wings 1000 lbs. of tools. rills 4" to 8" holes. Maxi-um depth (4") 500 ft.



22-W

Swings 1500 lbs. of tools. Drills 4" to 10" holes. Maximum depth (4") 1000 ft.



24-L

Swings up to 3000 lbs. of tools. Drills holes up to 20" dia. Maximum depth (finishing 4" or 5") 1500 ft.

D. MILWAUKEE **BUCYRUS ERIE** WISCONSIN

Your RED CROSS must carry on!

DRILLER

A journal for water well drillers

SO. MILWAUKEE WIS. U.S.A.

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